

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 (Currently Amended). A semiconductor device comprising at least a pixel portion and a ~~driver~~ driving circuit portion, the pixel portion having at least one p-channel TFT and the driving circuit portion having at least an n-channel TFT and a p-channel TFT, said semiconductor device comprising a plurality of TFTs and each of the at least one n-channel TFT and the p-channel TFTs comprising:

a semiconductor layer formed on an insulating surface;

an insulating film formed on the semiconductor layer; and

a gate electrode formed on the insulating film,

~~wherein the pixel portion comprises at least one p-channel TFT and the driving circuit portion has at least an n-channel TFT and a p-channel TFT,~~

wherein ~~[[a]]~~ the gate electrode of the n-channel TFT of the driving circuit portion has a laminate structure with a first conductive layer as a lower layer and a second conductive layer as an upper layer, the first conductive layer having a first width and ~~[[a]]~~ the second conductive layer having a second width that is narrower than the first width, and

wherein ~~[[a]]~~ the gate electrode of the p-channel TFT of at least the pixel portion has a laminate structure comprising a ~~first~~ third conductive layer and a ~~second~~ fourth conductive layer over the third conductive layer, an upper surface of the first conductive layer and a lower surface of the second conductive layer having the same width

wherein a first angle formed by a bottom surface and a side surface of the third conductive layer is larger than a second angle formed by a bottom surface and a side surface of the fourth conductive layer.

2 (Original). A device according to claim 1, wherein edge of the first conductive layer of the n-channel TFT of the driving circuit portion is tapered in section.

3 (Original). A device according to claim 1, wherein the p-channel TFT of the pixel portion comprises a plurality of channel formation regions.

4 (Original). A device according to claim 1, wherein in the n-channel TFT of the driving circuit portion, the gate electrode has a tapered portion, and the semiconductor layer comprises a channel forming region overlapping the gate electrode and an impurity region partially overlapping the gate electrode.

5 (Original). A device according to claim 4, wherein the impurity region of the n-channel TFT has a region that has an impurity concentration gradient in a range of at least 1×10^{17} to 1×10^{18} atoms/cm³, and the impurity concentration thereof increases as the distance from the channel forming region increases.

6 (Original). A device according to claim 4, wherein the impurity region of the n-channel TFT includes a source region or a drain region.

7 (Currently Amended). A device according to claim 1, wherein the p-channel TFT of at least the pixel ~~region~~ portion has an LDD region between one channel forming region and a source region, or between the channel forming region and a drain region in the semiconductor layer.

8 (Currently Amended). A device according to claim 1, wherein the p-channel TFT of at least the pixel ~~region~~ portion has an offset region between a channel forming region and a source region, or between the channel forming region and a drain region in the semiconductor layer.

9 (Original). A device according to claim 1, wherein a gate wiring line is formed on an insulating film that covers the gate electrode in the pixel portion, and wherein the gate wiring line and a pixel electrode connected to the impurity region of the p-channel TFT of the pixel portion comprise the same material.

10 (Currently Amended). A device according to claim ~~[[1]]~~ 4,
wherein a source wiring line is formed on a first insulating film that covers the gate electrode in the pixel portion,
wherein an electrode connected to one of the impurity regions of the ~~of the~~ p-channel TFT of the pixel portion is formed on a second insulating film that covers the source wiring line, and
wherein the electrode and a pixel electrode comprise the same material.

11 (Currently Amended). A device according to claim 1, wherein the semiconductor device is at least an electric equipment selected from the group consisting of a video camera, a digital camera, a navigation system for automobiles, a personal computer, a portable information terminal, a digital video disc player, or an electronic game machine.

12 (Currently Amended). A semiconductor device comprising at least a pixel portion and a

driving driver circuit portion, the pixel portion having at least one p-channel TFT and the driving circuit
portion having at least an n-channel TFT and a p-channel TFT, said semiconductor device comprising a
plurality of TFTs and each of the p-channel TFTs comprising:

a first semiconductor layer formed on an insulating surface;

an insulating film formed on the semiconductor layer; and

a plurality of first gate electrodes formed on the insulating film,

~~wherein the pixel portion comprises at least one p-channel TFT and the driving circuit~~
~~portion has at least an n-channel TFT and a p-channel TFT;~~

wherein in the at least one p-channel TFT of the pixel portion, each of the plurality of first
the gate electrodes has a tapered portion, and the first semiconductor layer comprises:

a plurality of first channel forming regions overlapping the plurality of first gate electrodes
respectively; and

[[an]] a first impurity region partially overlapping one of the first gate electrodes,

wherein each of the first gate electrodes of the p-channel TFT of the pixel portion
comprises a first conductive layer and a second conductive layer over the first conductive layer,

wherein a first angle formed by a bottom surface and a side surface of the first conductive
layer of the p-channel TFT of the pixel portion is larger than a second angle formed by a bottom
surface and a side surface of the second conductive layer of the p-channel TFT of the pixel portion, and

wherein [[in]] the at least one n-channel TFT of the driving circuit portion comprises,

~~the~~ a second gate electrode ~~has~~ having a tapered portion, and

~~the~~ a second semiconductor layer ~~comprises~~ comprising a second channel forming region
overlapping the second gate electrode; and

[[an]] a second impurity region partially overlapping the second gate electrode.

13 (Currently Amended). A device according to claim 12,

wherein a gate wiring line is formed on an insulating film that covers the plurality of gate electrodes in the pixel portion, and

wherein the gate wiring line and a pixel electrode connected to the first impurity region of the p-channel TFT of the pixel portion comprise the same material.

14 (Currently Amended). A device according to claim 12,

wherein a source wiring line is formed on a first insulating film that covers the plurality of gate electrodes in the pixel portion,

wherein an electrode connected to the impurity region of the of the p-channel TFT of the pixel portion is formed on a second insulating film that covers the source wiring line, and

wherein the electrode and a pixel electrode comprise the same material.

15 (Currently Amended). A device according to claim 12, wherein the semiconductor device is at least an electric equipment selected from the group consisting of a video camera, a digital camera, a navigation system for automobiles, a personal computer, a portable information terminal, a digital video disc player, or an electronic game machine.

16 (Currently Amended). A semiconductor device comprising at least a pixel portion and a ~~driver~~ driving circuit portion, said semiconductor device comprising:

a semiconductor layer formed on an insulating surface, the semiconductor layer comprising at least one channel forming region and impurity regions;

a gate electrode formed adjacent to the semiconductor layer with a gate insulating film interposed therebetween, the gate electrode having a laminate structure with a first conductive layer as a lower layer and a second conductive layer as an upper layer;

an insulating film formed over the gate electrode; and

a gate wiring line formed ~~on an~~ over the insulating film,

wherein the pixel portion comprises at least one p-channel TFT and the driving circuit portion has at least an n-channel TFT and a p-channel TFT,

wherein, in the gate electrode of the n-channel TFT of the driving circuit portion, the first conductive layer having a first width and the second conductive layer having a second width that is narrower than the first width, and

wherein, in the gate electrode of the p-channel TFT of the pixel portion ~~at least~~, an upper surface of the first conductive layer and a lower surface of the second conductive layer ~~having~~ have the same width, and

wherein the gate wiring line comprises the same material as a pixel electrode connected to the impurity region of the p-channel TFT of the pixel portion.

17 (Original). A device according to claim 16, wherein the semiconductor device is at least an electric equipment selected from the group consisting of a video camera, a digital camera, a navigation system for automobiles, a personal computer, a portable information terminal, a digital video disc player, or an electronic game machine.

18 (Currently Amended). A semiconductor device comprising at least a pixel portion and a ~~driver~~ driving circuit portion, the pixel portion having at least one p-channel TFT and the driving circuit

portion having at least an n-channel TFT and a p-channel TFT, said semiconductor device each of the at least one n-channel TFT and the p-channel TFTs comprising:

a semiconductor layer formed on an insulating surface, the semiconductor layer comprising at least one channel forming region and impurity regions; and

a gate electrode formed adjacent to the semiconductor layer with a gate insulating film interposed therebetween, the gate electrode having a laminate structure with a first conductive layer as a lower layer and a second conductive layer as an upper layer;

wherein the semiconductor device further comprises:

a first insulating film formed over the gate electrode;

a source wiring line formed on [a] the first insulating film; and

a second insulating film formed on the source wiring line, ~~wherein the pixel portion comprises at least one p-channel TFT and the driving circuit portion has at least an n-channel TFT and a p-channel TFT,~~

wherein, in the gate electrode of the n-channel TFT of the driving circuit portion, the first conductive layer ~~having~~ has a first width and the second conductive layer ~~having~~ has a second width that is narrower than the first width, and

wherein, in the gate electrode of the p-channel TFT of the pixel portion ~~at least, an upper surface of the first conductive layer and a lower surface of the second conductive layer having the same width,~~ a first angle formed by a bottom surface and a side surface of the first conductive layer of the p-channel TFT of the pixel portion is larger than a second angle formed by a bottom surface and a side surface of the second conductive layer of the p-channel TFT of pixel portion, and

wherein the pixel ~~region~~ portion further comprises :

an electrode formed on the second insulating film and connected to one of the

impurity ~~region~~ regions of the [of the] p-channel TFT of the pixel portion; and

a pixel electrode formed on the second insulating film and comprising the same material as said electrode.

19 (Currently Amended). A device according to claim 18, wherein the semiconductor device is at least an electric equipment selected from the group consisting of a video camera, a digital camera, a navigation system for automobiles, a personal computer, a portable information terminal, a digital video disc player, or an electronic game machine.

20-36. (Canceled).

37 (New). A device according to claim 12, wherein edge of the first conductive layer of the n-channel TFT of the driving circuit portion is tapered in section.

38 (New). A device according to claim 12, wherein the second impurity region of the n-channel TFT includes one of a source region and a drain region.

39 (New). A device according to claim 12, wherein the p-channel TFT of at least the pixel portion has an LDD region between one of the first channel forming region and a source region, or between one of the first channel forming region and a drain region in the first semiconductor layer.

40 (New). A device according to claim 12, wherein the p-channel TFT of at least the pixel portion has an offset region between one of the first channel forming region and a source region, or

between the first channel forming region and a drain region in the first semiconductor layer.

41 (New). A device according to claim 12, wherein the semiconductor device is an electric equipment selected from the group consisting of a video camera, a digital camera, a navigation system for automobiles, a personal computer, a portable information terminal, a digital video disc player, or an electronic game machine.

42 (New). A device according to claim 18, wherein edge of the first conductive layer of the n-channel TFT of the driving circuit portion is tapered in section.

43 (New). A device according to claim 18, wherein the p-channel TFT of the pixel portion comprises a plurality of channel formation regions.

44 (New). A device according to claim 18,
wherein in the n-channel TFT of the driving circuit portion, the gate electrode has a tapered portion, and an impurity region partially overlapping the gate electrode.

45 (New). A device according to claim 18, wherein the impurity region of the n-channel TFT of the driving circuit portion partially overlaps the gate electrode of the n-channel TFT of the driving circuit portion.

46 (New). A device according to claim 18, wherein the impurity region of the n-channel TFT includes one of a source region and a drain region.

47 (New). A device according to claim 18, wherein each of the impurity regions of the at least one p-channel TFT in the pixel portion comprises:

one of a source region and a drain region; and

an LDD region between the channel forming region and the one of a source region and a drain region.

48 (New). A device according to claim 18, wherein the at least one p-channel TFT in the pixel portion has an offset region between the channel forming region and one of the impurity regions.

49 (New). A device according to claim 18,

wherein a gate wiring line is formed on the first insulating film, and

wherein the gate wiring line and a pixel electrode connected to one of the impurity regions of the p-channel TFT of the pixel portion comprise the same material.

50 (New). A device according to claim 18, wherein the semiconductor device is an electric equipment selected from the group consisting of a video camera, a digital camera, a navigation system for automobiles, a personal computer, a portable information terminal, a digital video disc player, or an electronic game machine.